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The two major target populations for these programs are children entering school in first or second grade who are in delinquenogenic neighborhoods and adolescent dropouts who attend special Youth Counseling Centers where skills can be taught. The program should develop reading skills and enrich vocabulary providing a basis for accelerated educational progress and orienting students to prevent or reduce delinquency.

The following are characteristic of delinquents: rejection of community values, lack of sustained life planning, lack of method of obtaining status, feelings of injustice, and a distinct vocabulary.

The effectiveness of any training program must be evaluated by the subsequent behavior of the trainees. There should be a reduction of delinquent acts. Participants should be more employable. The programs must be economical and readily available, requiring less skills, equipment, and housing than alternative methods of training.

Learners will progress according to personal proficiency, ability to organize, and ability to plan. The development of status is dependent upon the individual's willingness to invest his time and energy.

The Progressive Choice Reading Program involves short units of programed material which require a response to the text and which feed back the adequacy and relevancy of the learner's response. Post-reading skills, basic science, and basic math follow the basic reading program.

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PROGRESSIVE CHOICE PROGRAMMING
for
DELINQUINOGENIC COMMUNITIES

(A Proposal for Research)

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THE PROBLEM

The struggle for civil rights in America today spotlights the plight of a large segment of the population. When the various legal complexities are resolved, it will be glaringly clear that economic equality is not the natural consequence of legal equality. Technology must give preference to the educated, the skilled, and the competent. Economic and political disenfranchisement occur in a paired relationship; once legal equality is achieved, economic inequality appears in sharp focus, unrelieved by the ambiguity provided by political inequities.

The job market requires knowledge, proficiency and experience. To achieve equality the culturally underprivileged must be given even more effective education and training than the culturally privileged. The training must be accelerated for those older children and adolescents who have fallen behind in the development of skills required to obtain and maintain gainful employment. Their training must compensate for the cultural impoverishment of home and neighborhood; it must be intrinsically motivating and demonstrably rewarding to effect commitment and maintain involvement.

Many communities in urban American today may be considered delinquinogenic; the squalor, poverty, lack of social mobility and impoverished cultural and educational histories generate behaviours which violate the mores and laws of the general society. Delinquinogenic neighborhoods and communities produce relatively higher proportions of individuals who make little or no contribution to national productivity, but rather drain the economy by requiring support from various types of welfare subsidies including penal institutions. Members of these communities have lower educational ceilings and lack specialized job skills thus perpetuating the process.

The Objectives:

There are two major target populations:

1. Children entering school in first and/or second grade who are in delinquinogenic neighborhoods.

2. Adolescents who have dropped out of school and who regularly attend a special Youth Counseling Center where testing is performed and various skills can be taught.

Programs have the following objectives:

1. Develop reading skills rapidly and enrich vocabulary providing a basis for accelerated educational progress.

2. Acculturate and orient students through the use of program materials and methods to prevent and/or reduce the occurrence of delinquent behaviour.

The delinquent has the following characteristics:

1. <u>Rejection of Community Values and Mores</u>: The delinquent more readily violates community morality and laws where they conflict with requirements of the delinquent peer group and his personal needs.

2. Lack of Sustained Life Planning: Behaviours tend to involve satisfactions of immediate needs in extremely constricted time-spaces. Delinquents live in the present-time and satisfy those needs which are prepotent for the leaders of the delinquent sub-culture group.

3. The Delinquent Status Structure: Delinquents having no method of obtaining status in the general society, develop internal status producing mechanisms. Those behaviours which most fully reflect idealized delinquent behaviours generate upward social mobility within and between delinquent groups.

4. Parasitism as Social Justice: The delinquent often perceives himself as being unfairly denied the social and economic bounty enjoyed by others. This provides a basis for violating property rights (as a just due) and can generate law breaking activities involving yoking, gambling, the numbers rackets and even prostitution and narcotics. These activities are perceived as just retribution against the society which has violated the morality of their sub-culture.

5. Delinquent Dialect as a Communication Capsule: Because of the tight ingroup structure of delinquent groups, there is a strong tendency to develop a specialized language. This language functions to identify group members, to emphasize activities of particular importance, and as a status mechanism establishing the specialty of those who know the code. This restricted set of terms is largely unintelligible for members of the general society; further it stigmatizes the user, and has little function for non-delinquent activity. The specialized dialect of the delinquent not only acts to reduce communication but forms an abyss for those delinquents who may wish to learn to conform to the requirements of the general society.

As our society increases in its technological complexity it paradoxically limits the potential contribution of the young men and women entering the work force. The Bureau of Labor Standards of the United States Department of Labor recently stated:

> "The teenage dropout, whether a delinquent or a non-delinquent, begins his adult life economically and socially handicapped. Since more than two-thirds of these youngsters, according to National Education Association figures, have average or above average ability, the high dropout rate is not only tragically limiting to the individuals involved, but also is a costly waste of potential to American Society as a whole."[1]

The dimensions of this problem were suggested in a speech by Supreme Court Justice Goldberg (as Secretary of Labor):

> "Today, one out of every four employable young people between the ages of 16 and 21 is out of work. . This does not include students seeking part-time work, but those fully in the labor market, seeking full-time jobs."[2]

A statement by the Department of Labor[3] provides an independent estimate which is compatible with the above figures:

> "Unemployment also ups the cost of aid in the form of Welfare expenditures which are rising sharply. For the fiscal year 1959, $1 billion went to welfare funds. By fiscal year 1961, $3.9 billion was used to assist Federal, State and local governments. This money is supplied from tax sources and does not include surplus food, private welfare funds, and many other relief programs."

The projection of national population figures points to a serious aggravation of this social sore:

> "...the number of dropouts will likely increase during the 1960's because of the greater number of high school age youth. The Department of Labor estimates that of the 26 million new workers entering the labor force in the present decade, some 7.5 million will not have completed high school. Of these, about 2.5 million will have completed only the eight grade or less."[4]

The adult illiterate has a low income, unstable family relationships, and a higher probability for commitment to institutions. As has been repeatedly demonstrated, an impoverished environment results in a paucity of social and intellectual inputs and can result in spuriously low measures of intellectual, personal and social capability. Further, the force of moral and legal mechanisms for control over behaviour is reduced on the basis of the lack of awareness and a resulting insensitivity to societal demands. Enrichment of the social environment has repeatedly produced positive changes in standardized measures. Some of the changes as in the studies of Cooper, Gault, Slawson, Miner, Merrill, Kvaraceus, Shulman, Maller, Healy and Bronner, Shaw, E. and S. Glueck, Terman, and Wechsler, among others [5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18.], have been quite dramatic.

The illiterate mother has a greater number of illegitimate children than her literate peer. The illiterate inmate of a criminal institution has a greater probability of recidivism.[19,20] Likewise, the school dropout is often a frustrated adolescent at the peak of his energy levels, who faces low employability and a future ridden with social parasitism [21, 22, 23]. This impulsive societal force is largely limited to non-productive behaviour as a consequence of low literacy levels and consequent low job skills. A report of the Sub-Committee to Investigate Juvenile Delinquency of the Senate Judiciary Committee stated:

> "Today in many communities youth unemployment is a serious social and economic problem. Unless remedial measures are found and applied, this problem may soon reach critical proportions all over the country with a direct bearing on the youth crime rate which has risen sharply each year for the last decade. Teenagers in the labor market have the highest rate of unemployment of any age group, generally about double the national average. Many experts in the delinquency field feel that this unemployment is a factor contributing to youth crime."[24]

The question may be raised as to whether these adolescent castoffs are dropping out because of academic inadequacy, or whether they are unable to learn under conventional classroom methods. Conversely, if training methods were designed to provide goals perceived as more realistic in a context consistent with the needs and values of these learners, could we not anticipate a considerable educational resurgence in these resilient young people?

Illiteracy denies approximately eleven percent (11%) of Americans of their right to fully participate in our democratic society. Dr. Edward W. Brice, Acting Chief, Adult Education Branch of the U.S. Office of Education and specialist in problems of illiteracy, has stated that the loss to the nation in terms of production potential, is staggering:

> "The lack of basic Elementary Education among these millions of citizens, both Native and Foreign born, constitutes a continuing national problem of great magnitude and urgency both in time of peace as well as war."[25]

President John F. Kennedy, in a policy making statement before the General Assembly of the United Nations (September 25, 1961) stressed the importance of literacy in the attainment of free government:

> "Political sovereignty is but a mockery without the means to meet poverty, illiteracy and disease. Self determination is but a slogan if the future holds no hope."

Under present circumstances, the socially retarded often cannot be differentiated from the true mentally defective.[26,27] The impact of the environment so reduces functional capability, that the genetically healthy perform as if they were genetically defective.[28,29,30]

CRITERIA FOR PROGRAM EFFECTIVENESS

The effectiveness of any training program must be evaluated by its consequences in the behavior of the trainees. The use of these programs in delinquinogenic communities is justified if they generate mechanisms for adaptation to the ethics and morals of the general society. The assessment of the value of these proposed programs is measurable along certain critical dimensions:

1. There should be a reduction in the frequency of delinquent acts. The effects can be readily evaluated by longitudinal analysis of public records.

2. Participants should be more employable. Increased employment reduces the number of welfare cases and other parasitic methods of support. This manpower released to societal production should increase the number of dollars obtained through taxation.

3. These programs must be economical, readily available, and require less skills, equipment and housing to put into mass use as compared with alternative methods of training.

4. As these programs can be rapidly produced and put into effect, their effectiveness in reaching the program goals can be objectively evaluated by tests of skill and/or comprehension.

The Approach:

Learners will be organized into programs where progress is based on personal proficiency and ability to organize and plan. Status growth is concomitant with the development of skills of value to the broader community and to the group in which he is learning. The development of personal skills (and thus status) is limited only by capacity and willingness to invest time and energy. To maintain an appropriate rate of motion the learner must: (1) learn to tolerate frustration by planning a course of action to achieve goals (2) learn to organize his own behaviors so as to permit others to learn through him (3) sharply increase personal vocabulary to the point where there is ready access to speech and writings by others (4) learn techniques and attitudes which contribute to employability. (See Appendix A for experimental results involving methods to develop reading skills, procedural skills and conceptual understanding.)

Initially these programs will be written to minimize conflict with the existing value structure. However, as the learners progress into the network of programs, the values will be modified so that the programs will ultimately provide a basis for understanding and participation in the ethics and morality of the general society. Thus as the learner develops reading skills, vocabulary, mathematical, and English writing skills, he is provided with the basis for bridging the attitudinal gap between the world he is in and the world which beckons beyond the environmental capsule imposed by the neighborhood. (See Appendix B for more detailed statement of the structure and mechanisms required for a sustained broad scale attack.)

AN INITIAL PLAN OF ACTION

The Progressive Choice Method of developing reading skills will be used to reduce the incidence of delinquency. The programming technique contains a variety of devices designed to improve social behaviours, frustration tolerance, ability to plan, general responsiveness and the level of aspiration of the children. Thus, in the process of learning to read better, learners can be expected to improve in their general attitudes and willingness to undertake effortful tasks. Without expanding on the specific techniques at this point (See Appendix A) it should be pointed out that evidence exists that positive attitudinal changes occur when these programming methods are used. Work done by the principal investigator with Nike Missile operators and Bell Telephone employees as well as the reactions of parents, teachers and School supervisors with programs teaching reading to the mentally retarded have resulted in evidence of positive attitudinal changes. "A Self-Instructional Program for District of Columbia Drivers", currently

under experimental test through George Washington University was developed to correct road behaviours and shift attitudes of drivers with very bad driving records. Thus, as these programs are acting to produce reading skills efficiently and rapidly, they are also expected to reorient attitudes and shape responsible behaviours.

PROGRAMS TO BE PROVIDED

The reading program will consist of Synchronous Progressive Choice programmed material analogous to those used in teaching retarded children to read. These programs will be modified for use with potentially and actively delinquent groups. There are two reading skill development programs involved in the present plan:

1. The Beginning Reader:

   (a) Teach basic reading skills for the first and/or second grade child using programs provided for use in the classroom under the guidance of a professional teacher.

   (b) Provide orientation and critiques for teachers periodically to insure proper use of programmed material.

2. The Adolescent Non-Reader or Partial Reader:

   A Basic Reading Program will consist of programmed reading materials designed to interest adolescent non-readers and low skill readers. These programs will be organized so that reading skills will be taught by (1) Professional Teachers (2) Counselors (3) interested and motivated adults and (4) adolescents with good existing reading skills. A reader who completes this Basic Reading Program will read at a minimum sixth grade level and many children will reach or exceed this level in less than one year.

It is assumed that most adolescents who complete the basic reading program will still have severe vocabulary restrictions, limited understanding of arithmetic, and little facility with procedures required in other than very elementary arithmetic calculations. Therefore, on completion of the basic reading skills program, the following developmental programs will be offered:

1. The Post-Reading Skill: Programs designed to develop vocabulary will be provided. These will be disigned to extend the range and depth of the reading vocabulary using various self-instructional methods based on historical, social and literary content materials.

2. Basic Science Program: When the learner has developed a greater reading facility and an expanded vocabulary, he

can undertake the Basic Science Program. This is being designed to provide understanding of arithmetic operations while acquiring basic information about various sciences through the program. Thus, it is possible to teach facts about the atom in programmed form and use these to teach addition and subtraction in terms of differences and combinations of electrons. Concepts such as charge, coulomb, ionization, etc. can be introduced. The Basic Science Program thus imbeds the drill implicit in arithmetic with content and vocabulary in the physical, biological and social science. The arithmetic skills and procedures emerge only at those points where arithmetic skills function to extend understanding.

3. Basic Electricity Program: On completion of the Basic Science Program, the learners may move into the Basic Electricity Program to obtain a firm basis of understanding in this vital technical area. This Basic Electricity program will be somewhat simpler than the one designed by the Principal Investigator for the Bell Telephone System. Learners will be required to extend and deepen arithmetic skills and move up to simple algebraic and trigonometric relationships in the course of completing the program. It is expected that this program will be within the grasp of substantial proportion of the learners who complete the Basic Science Program.

PROGRAM EVALUATION

All programs will be evaluated in an experimental setting working jointly with Washington Action for Youth. An appropriate pre-test battery will be given to obtain the base-line reading score. Progress will be based on gain scores between the pre-test battery score and later evidence of performance (post-test) obtained on comparable testing instruments. Comparisons will be made between students learning through the use of programmed materials and those using alternate methods. All results will be compared using standard statistical techniques. These will include analysis of variance, correlation and covariance if required. A preliminary report evaluating initial progress will be submitted at the end of three months. Comprehensive interim reports will be written after each twelve months of program utilization.

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REDUCING DELINQUENCY RATES

THROUGH

SYNCHRONOUS PROGRAMMING

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Myron Woolman, Ph.D.

Appendix A

THE SYNCHRONOUS PROGRAMMING APPROACH

The non-readers enrolled in the program will be provided with workbooks. A literate person (professional teacher or non-teacher) will be given a Reading Program Guide cross-coded to the workbooks. The "Guides" will be designed to provide a pattern of interactive behavior controlling the learning activity of the illiterate learner group. These materials will be analogous to those now being used to teach reading skills to mental retardates (Mental Health Project Grant 5-R-11-MH-1010-2).

The three methods of programming are (1) Operational Context Training (OCT); (2) Conceptual Structure, and (3) Perceptual Structure as embodied in the Progressive Choice Reading Method. Each of these will be briefly described including a summary of available data.

The Operational Context Training Program

This programming method was designed for use in missile batteries when it was found that a small percentage of the assigned men were repeatedly used as the firing team. The method was designed to transmit the combined skills of these men to the large unskilled but available pool assigned to the Fire Control System[33]. The method provided:

(1) a step by step teaching procedure for use by non-instructors.

(2) a simple but general system of evaluating performance

(3) total organization of all information to be learned

(4) a system of goals and sub-goals

(5) an internal administration and record keeping system

(6) various motivational devices involving status gain as a function of proficiency development

(7) a quality control system external to the instructor group

(8) an overall planning capability[34, 35]

Briefly, OCT trained operators, trained in OCT experimental batteries rather than the school at Fort Bliss were significantly more effec-

tive than operators trained in batteries without the OCT method (but highly motivated to perform well). OCT trained operators with less than eight months of total on-site time were as effective as operators originally trained at Fort Bliss plus fifteen months of on-site time. In addition to advantages in skill development, training costs were decisively lower (estimated cost of programmed materials for battery use was $2.00 per man as contrasted with the multiple costs of travel, facilities, equipment, manpower loss, etc., in a school context). The U.S. Army adopted this method for battery missile operator training as well as the U.S. Army Training Center at Fort Bliss in 1958. In addition OCT is now used for the General Electric Range Safety Instrumentation System (GERSIS), the Pacific Missile Range, and for training and maintenance of Fire Control operators on the Republic F-105 airplane.

The Conceptual Program

A second method of programming, which is pertinent to the present study involves the use of methods designed by the PI to facilitate development of understanding of relationships, concepts and principles. This type of program was developed and initially tested in the course of a program in Basic Electricity for the Bell System[36]. Since that time it has been used in a number of programming contexts. An experimental comparison between students given the Self-Instructional Program and lecture trained students was performed by Holt and Valentime[37] to determine whether the use of the programming method made a difference. A summary of the criterion test results is shown in Table 4.

TABLE 4

RESULTS OF EXPERIMENTAL COMPARISON BETWEEN LECTURE AND SELF-INSTRUCTIONAL-PROGRAMS IN BASIC ELECTRICITY

Matching Variables	Experimental Treatments	
	Controls (Lecture)	Experimental (Program)
N	30	34
Otis IQ	105.6	108.2
Years job service	12.7	11.6
Background semesters math	5.6	5.2
Score --Electrical pre-knowledge test	26.7	24.8

CRITERION TEST RESULTS

		(**)	t Ratios*
Multiple Choice Comprehensive	48.6	57.6	*4.46 (P .001)
Conceptual Understanding test	45.6	63.7	5.31 (P .001)

(**) Favors Programmed method; no member of Controls attained the mean of the Experimentals; no member of the Experimentals fell to the mean of the Controls.

This Basic Electricity Program is now being produced by the Western Electric Company for general use throughout the Bell System.

The Perceptual Program

(The Progressive Choice Reading Method)

The Progressive Choice Reading Method was designed by the Principal Investigator in 1950, based on theoretical considerations involved in the learning process. Since that time it has been subjected by Bloomer[38] to six experimental tests with first grade children[39]. (These studies employed teachers trained in the principles and techniques of the method.) Each of the six studies by Bloomer established a significant difference favoring PC trained children at the end of the first grade when compared with various conventional methods using standard tests of reading proficiency such as the Gates and Metropolitan tests. (See Table 5 below).

Table 5 represents a summary of six studies and shows that at the end of the first grade PC trained children obtained superior reading post-test scores ($P < .001$) when compared with children trained by other methods. Briefly, at the end of first grade, only six percent of PC children failed to achieve second grade level as compared with 29% for conventionals. PC and conventional reading methods were about equal in the proportion of children reading at second grade level, but only 18% of the control children obtained reading scores at the third grade level while 42% of PC trained children scored at the third grade level.

Davy[40, 41] adapted The PC Reading Method and demonstrated that retarded children could learn to read by this means. (See Supporting Document I for reprint summarizing this work.)

TABLE 5

SUMMARY OF SIX EXPERIMENTAL STUDIES

COMPARING PC AND CONVENTIONAL READING METHODS

Achievement Level of First Grade Pupils by Percent

Teaching Method	Number of Classes	Number of Pupils	Reading Achievement 1.0-1.9	2.0-2.9	3.0-3.9	Grade %
Progressive Choice	7	178	6	52	42	100
Combined other Methods	15	383	29	53	18	100

Chi Square = 138.21 using actual frequencies (P less than .001)

In summary, the (1) Perceptual program is taught by means of a (2) skill development program involving controlled learner-teacher interaction, systematic sequence, and evaluation and a (3) conceptual program is used to provide enrichment for the instructor to increase involvement, comprehension and add to his effectiveness as an instructor.

It should be emphasized that teaching juvenile delinquents, whether normal, institutional or retarded, involves the development of a substantially different program from the one now being tested experimentally: the life goals, values and needs of these adult illiterates differ radically from the school children now undergoing training. In the present program, the learners are initially involved by means of games, play and special high stimulus activity. Similar mechanisms related to the juvenile delinquent population will be used in developing involvement in the reading materials. It is vital that this population perceive the programmed reading situation as a mechanism which they can master rather than a return to learning methods historically associated with defiance and final defeat. The content and pacing of the literacy training material will originally be tailored to the learning population's basic needs and values as analyzed by research staff and consultants.

The criteria for design of material for the teaching of reading skills to juvenile delinquents:

1. Contextual Flexibility:

   a. Literacy training material should be so designed that it can be used in both school and non-school settings.

   b. The literacy training material should be able to be employed by skilled teachers and literate non-teacher trained adults.

   c. The literacy training material should be designed for training classes of individuals, small groups and used on a person-to-person basis.

2. Motivational Criteria:

   a. The literacy training material should relate to the basic goals and values of the learner population within the limits of social acceptability.

   b. The literacy training material should be designed to be intrinsically motivating in the sense that the learner increases personal involvement as he progresses.

3. Economic Criteria:

   a. The literacy training material should be adapted to the use of existing community resources and facilities for training, obtaining subjects and teaching.

   b. The literacy training material should be able to be used by non-professional unskilled persons in the role of instructor at the expense of some loss of efficiency.

   c. The literacy training material should not require the use of highly specialized buildings or other facilities, but rather be designed for use in any available space where one literate person can meet in some privacy with one or more illiterates.

   d. The materials used for the "instructor" and illiterates should be relatively cheap to reproduce in quantity.

   e. The materials should be sufficiently self-contained that they can be shipped and put to sue in a wide range of communities without special indoctrination or familiarization courses.

4. Functional Criteria:

   a. The literacy training material should be designed so that it can be used as the first phase in developing job skills.

   b. The literacy training material will be designed to provide awareness of social expectancies in moral and legal areas where feasible and consistent with the requirement for maintaining learning motivation.

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